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Project Objective

To develop a mission concept:

- Using 4 x 1m telescope array with resolution of 5m telescope
- Payload cost a fraction of monolithic telescope
- Capable of survey up to 100 stars

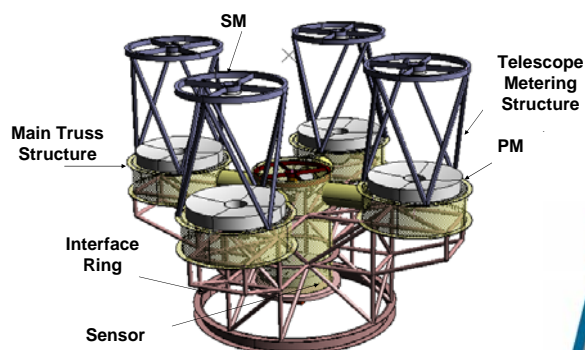
Recent Results

Uses novel beam combiner for greater throughput efficiency

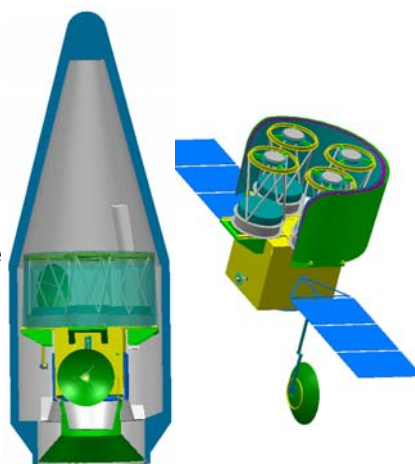
Uses COTS mirrors from ITT

Initial survey of target stars can be done in the first 2 years

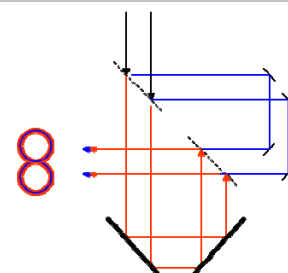
Project Description



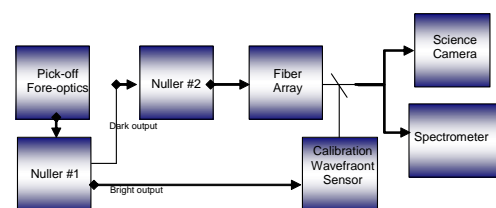
Optical Telescope assembly and components for the DAVINCI concept. Four 1.1m aperture telescopes are separated to produce the resolution of a 5m diameter telescope.



DAVINCI instrument stowed in its 5m launchfairing (left) and deployed in space (right).



Principal concept for recombination of light from 2 telescopes. There are 2 outputs for each telescope pair.



Block diagram of DAVINCI instrument, dual nulling interferometer, Calibration wavefront sensor, planet detecting science camera, and spectrometer. The 2 nullers give a θ^4 null pattern needed to block light from finite diameter stars.

Benefits to NASA and JPL (or significance of results)

Enable future NASA exo-planet detection missions

Enables spectroscopy of exo-planet atmospheres

Variable baseline configuration and u-v plane coverage enables study of AGN's

Nulling enables studies of accretion disk science